Part 8 · Number Search & Magic Square

Work out each answer below, then find it hidden in the digit grid — across, down, diagonally or backwards.

1. CSA of a cylinder, r=7, h=12 (π=22/7)
2. TSA of a sphere, r=7 (π=22/7)
3. Volume of a sphere, r=7, nearest whole (π=22/7)
4. CSA of a hemisphere, r=7 (π=22/7)
5. TSA of a cube, edge 7
6. Volume of a cube, edge 7
7. TSA of a hemisphere, r=7 (π=22/7)
8. CSA of a cone, r=7, l=21 (π=22/7)
9. CSA of a cone, r=7, l=10 (π=22/7)
10. TSA of a cube, edge 5

5	5	7	0	4	4	9	6	3	9	4	3	2
6	9	0	9	9	9	3	0	2	3	2	2	1
1	5	8	7	7	4	3	5	9	2	5	6	2
6	6	7	8	6	5	6	7	0	5	8	4	8
1	1	0	0	7	1	3	8	5	5	5	2	8
2	6	1	1	4	4	1	6	5	7	4	9	5
0	6	0	5	1	1	7	4	6	5	6	3	9
2	2	0	8	1	0	6	5	1	6	7	5	2
0	2	0	2	5	4	1	4	9	3	4	0	2
2	9	4	1	4	7	8	4	6	5	4	8	4
3	4	3	2	0	8	6	8	4	7	2	5	6
7	8	0	3	5	0	6	2	6	5	9	2	6
6	5	2	9	6	2	9	4	8	8	8	5	9

☐ 1540	☐ 1078	☐ 528	☐ 616	☐ 154
☐ 294	☐ 343	☐ 462	☐ 220	☐ 150

Magic Square — every row, column and diagonal adds to the same total.

A 3×3 grid using the consecutive integers 1–9, one per box, every row, column and diagonal summing to the same magic constant.

8	**1**	**6**
3		**7**

Magic constant: 15. Fill the empty cells.

From a playing top to a bird-bath, every combined solid this chapter throws at you reduces to the same two golden rules: surface areas only count what is still exposed, volumes simply add. Get those two sentences right and the arithmetic takes care of itself. □□